

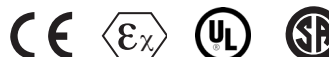
Proximity Sensors Capacitive, ATEX Thermoplastic Polyester Housing Type CB, Ø18, DC

TRIPLESHIELD™

CARLO GAVAZZI



- Capacitive level sensor for solid, fluid or granulated substances
- Featuring **TRIPLESHIELD™** sensor protection
- Rated operational voltage: 10-40 VDC
- Adjustable sensing distance 3-12 mm
- Output: DC 200 mA, NPN or PNP
- Make and break switching function
- LED indication
- High noise immunity
- Non-flush types
- Cable versions
- ATEX II 3DX T60°C



Product Description

ATEX approved Capacitive proximity switches with sensing distance 12 mm non-flush mounted. 4-wire DC output with make (NO) and break (NC) switching. Grey Ø18 polyester housing with 2 m PVC cable.

Ideal for detecting grain or solids as level indicator in tanks, silos or containers. Typical segments: agriculture, food & Beverage, conveyorbelts, plastic & rubber, etc.

Ordering Key

CB18CLN12NAAX

Capacitive proximity switch	—
Housing style	—
Housing size	—
Housing material	—
Housing length	—
Detection principle	—
Sensing distance	—
Output type	—
Output configuration	—
ATEX	—

Type Selection

Housing diameter	Rated operating dist. (S _n) ¹⁾	Mounting	ATEX zone	Ordering no. Transistor NPN/cable Make & break switching	Ordering no. Transistor PNP/cable Make & break switching
M18	12 mm	Non-flush		CB18CLN12NA	CB18CLN12PA
M18	12 mm	Non-flush	22	CB18CLN12NAAX	CB18CLN12PAAX

¹⁾ Object: Grounded steel plate

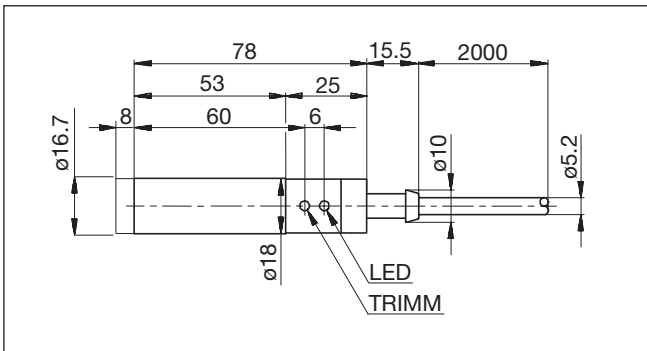
Specifications

Rated operating dist. (S_n) CB18CLN12	3 to 12 mm factory set at 12 mm	Environment Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Sensitivity	Adj. 270° turn pot. meter	Temperature Operating temperature	-25° to +80°C (-13° to +176°F)
Effective operation dist. (S_r)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n	Operating temperature (AX)	-20° to +40°C (-4° to +104°F)
Usable operation dist. (S_u)	0.8 x S _r ≤ S _u ≤ 1.2 x S _r	Storage temperature	-40° to +85°C (-40° to +185°F)
Repeat accuracy (R)	≤ 5%	Housing material Body	Grey, thermoplastic polyester
Hysteresis (H)	4 to 20% of sensing distance	Front	Grey, polyester
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)	Cable end	Polyester
Ripple	≤ 10%	Connection Cable	Grey, 2 m, 2 x 0.5 mm ² Oil proof PVC
Rated operational current (I_e) Continuous	≤ 200 mA	Weight Cable version	110 g
No load supply current (I_o)	≤ 10 mA	Approvals AX versions only	UL, CSA ATEX zone 22 dust* 〈E _h 〉 II 3 DX T60°C IP67
Voltage drop (U_d)	≤ 2.5 VDC at max. load	CE-marking	Yes
Power ON delay	≤ 100 ms		
Freq. of operating cycles (f)	30 Hz		
Indication for output ON	LED, yellow		
Protection	Reverse polarity, short-circuit, transients		

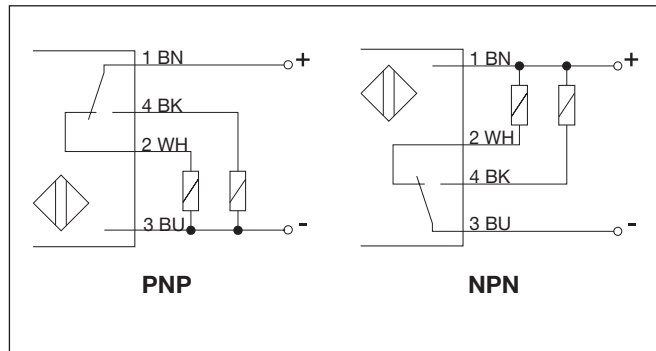
- * • The cable must not be exposed to a pulling force.
- Sensor housing must be protected against mechanical shock



Dimensions



Wiring Diagrams



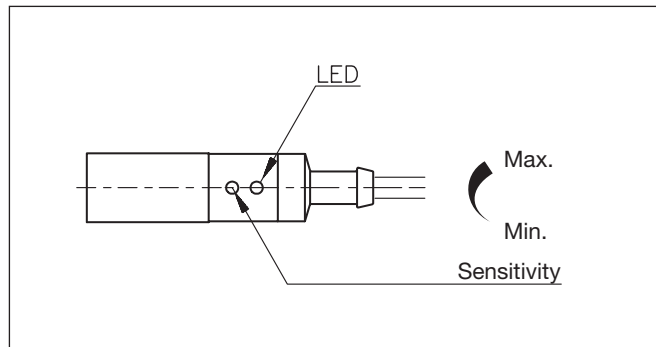
Adjustment Guide

The environments in which capacitive sensors are installed can often be unstable regarding temperature, humidity, object distance and industrial (noise) interference. Because of this, Carlo Gavazzi offers as standard features in all TRIPLESIELD™ capacitive sensors a user-friendly sensitivity adjustment instead of having a fixed sensing range, extended sensing range to

accommodate mechanically demanding areas, temperature stability to ensure minimum need for adjusting sensitivity if temperature varies and high immunity to electromagnetic interference (EMI).

Note:

Sensors are factory set (default) to maximum rated sensing range.



Installation Hints

Capacitive sensors have the unique ability to detect almost all materials, either in liquid or solid form. Capacitive sensors can detect metallic as well as non-metallic objects, however, their traditional use is for non-metallic materials such as:

- **Plastic Industry**
Resins, regrinds or moulded products.
- **Agriculture**
Feed, solids or grain.

- **Wood Industry**
Saw dust, paper products, door and window frames.

Materials are detected due to their dielectric constant. The bigger the size of an object, the higher the density of material, the better or easier it is to detect the object. Nominal sensing distance for a capacitive sensor is referenced to a grounded metal plate (ST37). For additional information regarding dielectric ratings of materials please refer to Technical Information.

Delivery Contents

- Capacitive switch: CB18CL...
- Screw driver
- **Packaging:** Cardboard box
- Installation & Adjustment Guide

<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p>	<p>Relief of cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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